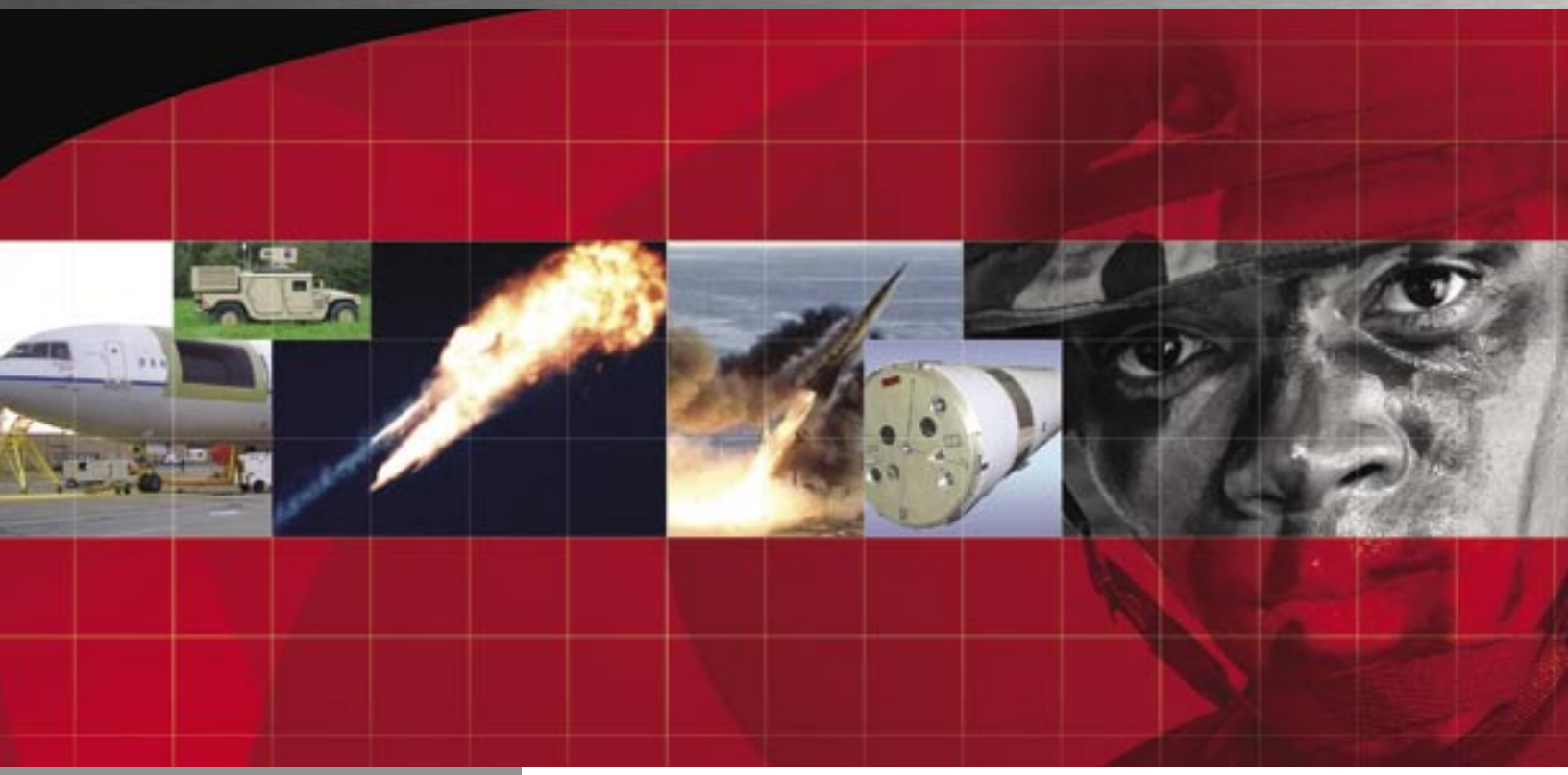
Technical Center



Summary

- Manages and advances missile defense technology research and development
- Manages and advances space technology research and development
- Develops technology opportunities for international, academic, industrial, and other government agencies cooperation and partnerships
- Plans and executes missile defense test and evaluation programs and related analysis
- Provides engineering resources and expertise in support of the Army Program Executive Office for Air, Space, and Missile Defense and MDA

The Space and Missile Defense Technical Center develops and transitions space, missile defense, and other related technologies.

The Technical Center (TC) conducts space, missile defense, and related technology research and development for the Army, the Missile Defense Agency (MDA), other defense-related, and other U.S. government agencies. The Technical Center pursues numerous opportunities for technical cooperatives and partnerships with academia, industry, and international organizations. Particular areas of technology development include radar, optics, interceptors, lasers, materiel and manufacturing technology, systems engineering and safety, information technology, and space technology. The Technical Center also provides data collection, mission planning, and engineering analysis for missile defense flight tests and operates the U.S. Army Kwajalein Atoll/Ronald Reagan Ballistic Missile Defense Test Site (USAKA/RTS) and the High Energy Laser Systems Test Facility at White Sands Missile Range, N.M.

Technical Center

The Technical Center (TC) manages and advances missile defense and space technology research, development, test, and evaluation for the Army, the Missile Defense Agency, defense-related, and other U.S. government organizations; provides engineering resources and expertise in support of the Army Program Executive Office for Air, Space, and Missile Defense; and develops opportunities for cooperation and partnerships with academic, industrial and international organizations and other government agencies.

Radar

Across TC, multiple radar programs and technology concepts are in various stages of maturity. These include programs to increase radar range; to counter electronic countermeasures; engage multiple targets; improve countermeasure discrimination; develop ultra lightweight radar power technology; increase transportability and detect, discriminate, and track.

Optics

TC is involved in the development of optical technologies. Current programs include: Silicon Carbide Mirror Technology Program, Photo Conductor on Active Pixel, Advanced Optical Sensor Program, Optical Signature Code, and the Applied Data Analysis Center.

Interceptors

TC is the historical and intellectual home of ballistic missile interceptor development. Technologies and concepts in various stages of development include: Multiple Kill Vehicles, Multi-sensor Seekers, Radiation-hardened Advanced Electronics, Advanced Data Fusion Algorithms, High-G Solid Divert Propulsion, Thermal Batteries, Innovative Guidance Computer Architecture, Composite Structures, and Insensitive Munitions Technologies.

Lasers

TC is the Army lead in high energy laser development, currently managing the Solid State Heat Capacity Laser Technology Program and several other laser initiatives.

Materials and Manufacturing Technology

TC manages the Missile Defense Materials and Manufacturing Technology Program, which is developing technologies for near- and mid-term insertion. Supporting programs include: Teryllium Replacement Program, Carbon Foam Technology Program, Ultra-high Temperature Propulsion Materials Program, and Aerothermal Materials Program.

Systems Engineering and Safety

This discipline is practiced and supported across TC by employing the Technology Program Management Model. Other missions include the Survivability Program, Life Cycle System Safety Support; and the Eagle Eyes Program (develop advanced signal processing devices that will detect nuclear material at extended ranges).

Information Technology

Warfighters must process, communicate, protect, manage, and act upon information. TC is SMDC's technology proponent for Computer Network Operations (CNO) and Information Technology Superiority. As such, TC manages the Wide Bandwidth Technology Program, the Missile Defense Data Center, and a CNO Testbed.

Space Technology

TC is the Army lead in Space Control Technology Development (surveillance, negation, protection) and Space Technology Applications. Our engineers execute the Distributed Imaging Radar Technology (DIRT) Program and the Overwatch Advanced Concept Technology Demonstration (ACTD).

Flight Test Support

TC provides vital missile flight test services for MDA. TC manages airborne test measurement platforms, data collection planning, data analysis, target signature development, radar/optical model development, and algorithm development for System Integration Tests, Hercules Flight Tests, Kinetic Energy (KE) Boost Phase Program, the Critical Measurements and Counter Measures Program, and the Aerial Dispersion Experiment.

U.S. Army Kwajalein Atoll/Ronald Reagan Ballistic Missile Defense Test Site (USAKA/RTS)

USAKA/RTS provides strategic and theater missile system testing, sensor research and development testing, and supports national space operations. It is a Department of Defense designated Major Range and Test Facility Base (MRTFB).

High Energy Laser Systems Test Facility (HELSTF)

HELSTF is located at White Sands Missile Range, N.M. The facility is the only fully integrated full-spectrum power laser facility capable of static to dynamic laser tests on an instrumented range. The facility tracks with high speed, high resolution infrared imaging of missile intercept and satellites. HELSTF is a DoD designated MRTFB.

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